

Open Your Eyes to Wildlife

Field Trip Preparation

The U.S. Fish & Wildlife Service educates the public about the environment in order to work together on conserving, protecting and enhancing plants, animals and their habitat. The Tualatin River National Wildlife Refuge environmental education program enables students young and old to learn the value of our ecosystems. When we collaborate with schools and other educational groups, we extend the learning process beyond conventional classroom limits, allowing students to make connections with their natural environment.

Environmental Education Goals

- Respect for all life forms
- A basic understanding of the total environment
- A sense of belonging to a special human niche within the environment
- A feeling of responsibility toward life and accountability for human impacts on the environment
- The skills to identify and resolve environmental problems
- Participation in all levels of environmental stewardship

Environmental Education Objectives

Awareness

To help individuals and groups acquire an awareness and sensitivity to the ecosystem – the total environment and its interactions.

Knowledge

To help individuals and social groups gain a variety of experiences in nature and acquire a basic understanding of the natural environment and its associated problems.

Attitudes

To help individuals and groups acquire a set of values and feelings of concern for the environment and to help motivate them toward active participation in environmental improvement and protection.

Skills

To help individuals and social groups acquire the tools for identifying and solving environmental problems.

Participation

To provide individuals and groups with opportunities to be actively involved in all levels of working toward the resolution of environmental problems.

Key Ecological Concepts

- ***At the Refuge, wildlife needs come first.***

Wildlife etiquette requires people to stay on the trails, to harvest nothing from the habitat, and to be quiet and unalarming. Wildlife depends upon habitat for food, shelter, clean air and clean water.

- ***Healthy ecosystems are diverse.***

A diversity of life indicates that the ecosystem is intact, and that plant and animal populations have a better chance of surviving in our changing environment.

- ***Organisms adapt to habitat conditions in order to survive.***

Each habitat is its own mini ecosystem, providing different needs for different organisms.

- ***Life is interdependent.***

Ecosystems exist in a delicate balance. A single change, such as the introduction of a non-native species, can upset the balance and threaten plant and animal populations.

- ***Many birds migrate, flying north in the spring and south in the fall.***

Birds use particular routes called flyways. Tualatin River National Wildlife Refuge is on the Pacific Flyway, and provides important feeding, nesting and resting areas for all sorts of birds. As habitat is lost to development, it is important to save these key habitats for migratory birds.

- ***Every living thing is born, matures and dies, transferring its energy to new life.***

The process of birth, death and rebirth is reflected in the endless cycle of the seasons.

- ***Tualatin River National Wildlife Refuge came about through a grassroots effort to preserve habitat and wildlife.***

The establishment of this Refuge in 1992 was largely a community-driven effort. Today, habitat restoration enhances the area for wildlife. People everywhere make decisions that affect wildlife. We all are responsible for our impacts upon the environment.

Refuge Resources & Assistance

Field trips to the Refuge are based entirely on an educator-led concept. Educators and group leaders are expected to plan and lead their own field trips. For students to have the most productive educational experience, teachers must attend a field trip orientation workshop and have clearly defined field trip goals. Tualatin River National Wildlife Refuge offers resources and assistance in meeting field trip learning objectives.

Teacher Workshops

Field trip orientation workshops will prepare teachers to conduct a quality environmental education experience on the Refuge. Workshops will be offered twice a year. Fall workshops will typically be held in late-September to early-October and spring workshops in early- to mid-April. Teachers must have participated in a workshop within the last two years in order to register their class for a field trip. No exceptions. The Refuge has a limited amount of field equipment available for loan on the day of your field trip.

Volunteers

Trained volunteer Refuge naturalists will be paired with field trips to the greatest extent possible. When available, volunteers will welcome and orient your group and sometimes accompany your class during your entire visit.

Wildlife Center

Plans are in the works for construction of a new Environmental Education Shelter. The Wildlife Center has an indoor classroom and laboratory for classes to enhance their visit to the Refuge. The Wildlife Center opened in March 2008. The Environmental Education Shelter is anticipated to be constructed in 2009 or 2010.

Special Considerations

Trails and facilities have been designed to accommodate our disabled visitors. Please contact the Refuge at 503-625-5944 for additional information and assistance.

Refuge Facilities

Parking

A visitor parking lot is available at the Refuge, including designated bus parking.

Buses

For safety, there are specific driving directions for buses that are traveling to the Refuge. Refer to “Bus Driving Directions” and “Bus Parking Directions” in the Resources Section for details.

Restrooms

There is one outdoor vault available. There are NO restrooms along the trails. Have students use restrooms before leaving school.

Water

There is currently NO drinking water at the Refuge. Please bring water for your group.

Telephone

There are no pay phones at the Refuge. In case of emergencies, please bring at least one cell phone for your group.

Trash Cans

Although trash cans are located at the parking lot, we request you take all trash with you and recycle, especially lunch trash! Please bring your own trash bags on the bus.

Lunches

Lunches must be consumed in and around the parking lot area or on buses. Picnic tables are not available, so bring something for students to sit on. Foam pads make great seating.

Making Reservations

To accommodate as many groups as possible, advanced registration is required for all school groups participating in the Refuge's environmental education program.

How Do I Register?

- First, attend a teacher workshop. You will receive a "Field Trip Reservation Application." Read form directions carefully.
- Complete and return the "Application for Field Trip Reservation" form. The completed application form must be returned to the Refuge three weeks prior to the field trip.
- You will receive a confirmation of your registration from the Refuge by email, phone or in writing.
- All reservations are made on a first-come, first-served basis. Applications will be accepted only during the school year of the field trip date requested.
- Your registration is not confirmed until you obtained a confirmation from the Refuge.
- Any registration forms received at the Refuge a week or less before a field trip will not be provided Refuge volunteers to accompany or lead any field trip lessons. The Refuge can not guarantee confirmation in less than a week.

Why Are Reservations Required?

Tualatin River National Wildlife Refuge is a popular place with limited facilities. By having teachers register their classes we can:

- Schedule classes so they do not conflict with another group. This reduces overcrowding of Refuge facilities, minimizes wildlife disturbance, and ensures a better opportunity for wildlife observation.
- Coordinate volunteers who provide orientations to groups.
- Determine the number of people participating in various activities on the Refuge. This information may be used to obtain funding for improvements to our public use programs.

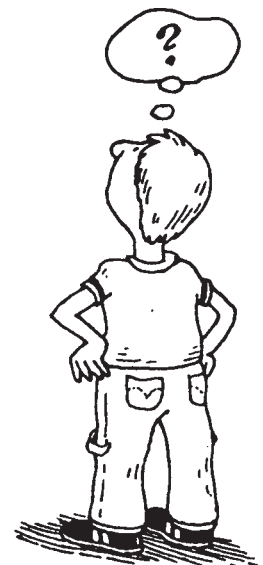
How Many Groups May Visit Daily?

The total number of students is limited to 70 at any given time on any given day from one school. Typically this would accommodate two classes from a school. This is in addition to the individuals and families who do not have reservations.

What About the Entrance Fee?

For a fee waiver, groups must meet the following criteria:

- Attended a teacher workshop within the past 2 years.
- The educational activity of the group is formally structured, using activities from this approved curriculum.
- Educators are prepared to lead their students through their field trip.
- Groups that qualify for a fee waiver will be exempt, noted on their confirmation.



Guidelines for Refuge Field Trips

Certain rules are necessary to help protect the wildlife and facilities at the Refuge. Important: Go over all guidelines with your parent volunteers and students.

Take Only Memories, Leave Only Footprints

All plants, animals and artifacts on the Refuge are protected by federal law. Students may take only photographs, drawings and memories. Please replace anything you pick up.

Pre-trip Activities

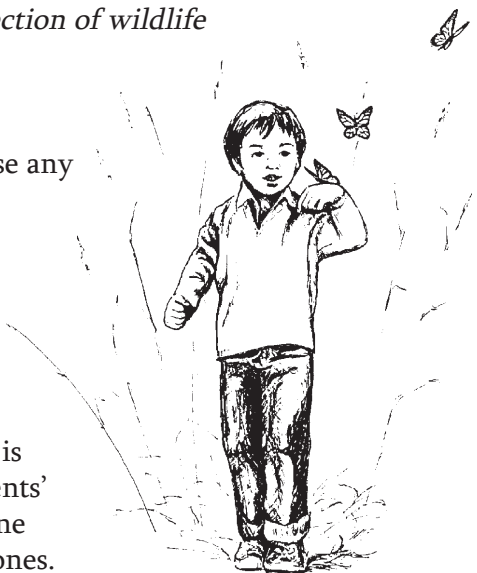
Pre-trip activities can best prepare your students for a rich and rewarding visit to the Refuge. Please, at the minimum, complete the pre-trip activity called “Developing Nature Observation Skills.” This lesson teaches students how to behave in nature, both for the protection of wildlife and to allow them the best opportunity to experience wildlife.

Walk and Talk Quietly

This will give you a better chance to see wildlife! Never run or chase any animals. When speaking to a group outdoors, face them, and speak clearly, but keep volume down so wildlife isn't scared away.

Stay With the Group

Please stay with your group on the trails! There should always be an adult present with students. An adult should always be the first and last people on the trail. An adult-to-student ratio of 1:5 is required for 3rd grade and under. An adult-to-student ratio of 1:10 is required for 4th grade and up. Think of creative ways to keep students' attention when walking from site to site. Use the “Sample Chaperone Letter” as a starting template for communicating with your chaperones.



Be Aware of Your Trash

Bring trash bags with you, avoid littering on the trails and please pick up any trash that you see.

Lunch

Lunches should be eaten in and around the parking lot or on buses. Lunches are not allowed on the trails or at the overlooks. Please bring trash bags to transport lunch trash back to school on the bus.

Keep the Animals Healthy

Do not feed ANY food to ANY animal.

Do Not Do “Extra” Experiments

Obey all posted signs and follow the instructions of Refuge volunteers and staff. Only use activities from this curriculum. *Note: Due to the delicate nature of the pond study ecosystem, a volunteer naturalist must accompany field trips that utilize pond study lessons. During the reservation process, please request a volunteer naturalist to accompany and lead these lessons.*

Encourage Curiosity

Don't feel like you need to have all of the answers. It's okay to say, “I don't know.” The process of asking questions is more important than knowing all the answers. Capitalize on teachable moments. If you spot a coyote in the middle of a discussion on aquatic insects, stop and observe the animal, discuss what you saw, then continue with your original lesson.

Planning a Field Trip?

If you are planning a trip to the Refuge, the following tips can make your experience a meaningful learning experience for your students. Think of the Refuge as an outdoor classroom that can enhance your students' understanding of many scientific and environmental concepts. Remember that you will need a reservation in order to visit the Refuge with your class.

To the greatest extent possible, the Refuge will strive to have a volunteer naturalist greet you as you arrive, introduce your group to the Refuge, and provide you with field equipment that you requested. **Teachers and adult group leaders will be expected to lead students on the trails and coordinate any activities.**

FIELD TRIP CHECKLIST:



- ____ 1. Attend a teacher workshop
- ____ 2. Review curriculum guide
- ____ 3. Determine the field trip objectives
- ____ 4. Select the activities that you would like to conduct
- ____ 5. Coordinate and reserve a field trip date with the Refuge
- ____ 6. Develop your field trip schedule
- ____ 7. Send in Reservation and Equipment Form to Refuge
- ____ 8. Recruit parent volunteer leaders (see “Guidelines for Refuge Field Trips” for adult-to-student ratios)
- ____ 9. Develop a parent volunteer leader information letter; familiarize adults with activities
- ____ 10. Divide students into small groups (10 students or less)
- ____ 11. Provide name tags for all students and color (blue, green, yellow, red, orange) code each group for easier organization upon arrival at Refuge
- ____ 12. Compile list of materials (clipboards, journals, water, snacks, pencils, trash bags for finished lunches, etc.)
- ____ 13. Obtain student materials and worksheets
- ____ 14. Distribute permission slips
- ____ 15. Plan activities for the bus and during transition areas along the trail
- ____ 16. Do pre-visit activities and conduct “Developing Nature Observation Skills” activity
- ____ 17. Review materials list (remember there is no water fountain so bring water for field trips over 2 hours or on hot days) and supplies needed for lessons
- ____ 18. Review safety procedures
- ____ 19. Use restrooms and fill water bottles before leaving school
- ____ 20. Board the bus and have a great Refuge visit

Group Management Tips

A great handout to copy for parent volunteers and adult group leaders.

If you have apprehensions about leading a group of children away from the four-walled constraints of a classroom, relax! There are several techniques you can use to keep the group's attention and still maintain the feeling of freedom and open exploration.

Be Prepared!

Read over the activities before coming to the Refuge. The more comfortable you are, the more comfortable the students will be.

Be Enthusiastic!

Enthusiasm is a greater catalyst than knowing a bunch of names. Whatever you are doing, do it with gusto! Get down on your hands and knees to look at the plants. *As the leader, you set the tone for the students' experience.*

Have a Focus

When you stop for observation, focus on something concrete. Gather the group in a semicircle with everyone facing toward the object of attention.

Ask Questions

Encourage thinking and group interaction by asking questions; spark their imagination. For example, "Why is there a hole in the ground here?" "How did it get here?" "What would you need to live here if you were a _____?" Whenever possible, ask questions instead of giving information.

Speak with the Group

Speak clearly and quietly, facing the group. Talk with the group, not at it.

Make Eye Contact

Make eye contact with your students. If necessary, you should face the sun, rather than having the students look into the sun.

Be Patient with Answers

Give students time to think and answer questions. Count to 10 before revealing the answer.

Demonstrate

Keep it simple. Demonstrate an activity as you explain it.

Encourage Curiosity

Encourage your students to pursue their natural curiosity. Any observation they make is a good one. If they come up with questions you cannot answer, have them write them down; they can look up the answer later or ask a Refuge volunteer.

Safety and Medical Considerations

Insect Stings

This is an outdoor field trip so teachers and group leaders need to be prepared to deal with insect stings and bites. Teachers and group leaders need to know if any students are allergic to insect stings, and those students need to bring their own medicine. Mosquitoes can be abundant during warmer months, so consider bringing insect repellent.

Water Safety

Water is present in many places on this Refuge. Extreme care should be taken when near water. Wash hands after every contact with water in the field.

Poison Hemlock, Stinging Nettle and Poison Oak

These plant species are present on the Refuge. By staying on the trails, you should avoid contact with these plants, but everyone should know what they look like.

Poison Hemlock – Of Socrates' fame, poison hemlock is deadly when ingested. It looks similar to wild carrot plants and grows to over 6 feet tall.



Poison Hemlock



Stinging Nettle

Stinging Nettle – These are typically found in shady, moist places and are usually 3-5 feet tall. Touching a nettle can result in a burning sensation that lasts for hours.

Poison Oak – This plant grows nearly anywhere as a shrub or a vine. The leaves cluster in groups of three and may be shiny. Touching the plant can result in a pervasive itchy rash.



Poison Oak

Rough-skinned Newt

The rough-skinned newt is a brown salamander with brightly-colored orange sides and belly. Toxins on their skin make them one of the most poisonous animals known to science. Look but don't touch!



Rough-skinned Newt

Wash Hands

ALWAYS have students wash their hands before consuming any food as well as after their field trip. Consider bringing hand sanitizer to help clean hands in the field.

First Aid Kits

Teachers will need to bring their own first aid kits.

Emergency Telephone Numbers

In an emergency, dial 9-1-1.

Preparation for Day of Field Trip

To make the most of your field trip to the Refuge, please make sure students are prepared.

1. Watch weather forecast and be prepared for any weather.
2. Dress in layers – students can tie a sweatshirt around their waist if they get too hot.
3. Wear sturdy shoes or boots that can get dirty or wet. Some of the trails may be muddy.
4. Bring disposable lunches (minimal packaging). Groups need to take their garbage with them so bring trash bags to transport garbage back to school. Please recycle as much as possible.
5. Do teachers, parent volunteers or students need to bring any equipment or worksheets?
6. Complete some of the pre-visit activities. The more your students know about the Refuge in advance, the better experience they will have on their field trip.
7. Have students use restrooms before leaving school. There is only one vault toilet available at the Refuge parking area. There is no water at the Refuge, bring water bottles.
8. Hand out copies of curriculum activities to parent volunteers.
9. Make sure students are divided into groups and have color coded name tags corresponding to their group.

Prompts & Quick Activities

Use these ideas for quick activities to fill time while waiting for the other group to finish or whenever you have a few extra minutes. This is also good information to provide to parent volunteers.

Short Observations

- Find a bird and watch it as you count to 25. Describe what you noticed about the bird's color, flight, size, or other characteristics
- Stop! Close your eyes and listen. Try to block out the sounds of the cars going by. Describe the nature sounds that you hear in 30 seconds.
- Do you see tracks in the mud? Can you guess who made them? Which way were they traveling?
- Find an insect and watch it as you count to 25. Describe what you noticed about the insect: Can it fly? Is it eating? What is it eating? Anything else?

Find Something

- Find three human-made things around you. What are the positive and negative aspects for each object?
- Find two to five things that have been changed by an animal. Find two to five things that have been changed by humans. Explain these to a partner.

- Find two animals or an animal and a plant that have a relationship with one another (heron-fish, duck-plant, minnow-algae, etc.). Explain the relationship.
- Find the largest and the smallest animal, plant, flower, bird, stone, etc. Find different things that are the same size.
- Find a bird that:
 - walks on edge of the wetland
 - dives to get its food
 - soars as it flies
 - sits in a tree

Do Something

- Do you see any litter? If it is safe to do so, pick it up and put it in the class garbage bag
- Move the way an animal moves.
- Write two descriptive sentences about something you see right now. Use as many adjectives and adverbs as possible.
- Compare the colors of animals with their surroundings. What do you notice?
- Push a pencil point into the soil with the open palm of your hand. Measure the distance it has gone into the soil when your hand begins to hurt. Try the measurement in different areas. If you were a burrowing animal, where would you like to live? Why?
- Predator/prey game: choose one student to be the prey. He/she is blindfolded and set in the center of a large circle formed by the other students (predators). One at a time, the leader points to a predator, who then tries to sneak up quietly and touch the prey. The prey has to use its ears to listen for predators and point to the predator when it is heard. Let several students try and switch roles.

Pretend / Imagine

- Pretend you are 1 inch tall and live in the wetland. What would you like to eat? Who would like to eat you? Where would you hide?
- Let's pretend it suddenly started to rain hard right now. Where would you go if you were a (rabbit, squirrel, bird, fish, butterfly, etc.)
- Pretend it is 500 years ago. What do you think this land looked like? What lived here? Did people live here? What do you imagine was the same? What do you imagine was different? Imagine what this looked like as the Native Americans started a controlled burn of the oak savannah. The low grassy area would burn but the large oak trees would be protected.
- Pretend it is 500 years in the future. What do you think the land will look like? What will live here? Will people live here? What do you imagine will be the same? What do you imagine will be different?

Teacher Guidelines for Parent Volunteers

The following are guidelines to help teachers guide and manage parent volunteers during field trips.

Certain expectations are required of parent volunteers. It is important to let them know these expectations prior to your field trip. This can be done as an after school or evening meeting with your parent volunteers. Providing them with information ahead of time will help them guide students during the field trip. We recommend supplying them with a map of the refuge, the breakdown of student groups, Refuge guidelines, itinerary for the day with specific time breakdowns, equipment list, and lesson directions for each study site.

As a parent volunteer, their primary job will be to monitor the movement of the students from one study site to the next, to facilitate the educational lessons included in their packet (provided by the teacher), and to keep their group of students with them at all times, with no one wandering ahead or falling behind. Each parent volunteer will be paired with another group and its parent volunteers at each study site. They need to be prepared to read the directions provided in the packet to the students when their group has arrived at their designated study site. Be sure to follow the required parent volunteer/student ratios.

Chaperone responsibilities and expectations are similar to those in an indoor classroom:

- Keep the focus on the students and wildlife not on other adults. Discourage social talking amongst adults.
- Remind everyone to stay on trails.
- Keep track of your students — count your own small group at least every 10 minutes.
- Watch and assist all the children in your small group, not just your own children
- Share your enthusiasm for discovering nature with your students
- School teachers and school chaperones are responsible for supervision students and teaching planned lessons. Volunteer Naturalists are added resources.*

Volunteer Naturalist's Role

Volunteer Naturalists have been trained in nature observation skills, they know Refuge guidelines, have spent many hours exploring the Refuge and are familiar with the variety of birds, plants, trees, and animals that call the Refuge home.

The Refuge attempt to provide a minimum of 1-2 volunteer naturalists per class. They do not lead the field trip nor follow lesson plans except as noted below.

Here is a list of a volunteer naturalist's field trip role:

- Greet bus upon arrival at Refuge
- Provide an opening and closing statement for field trips
- Get student groups and chaperones into their assigned field trip groups
- Provide equipment to teacher at beginning of field trip and return equipment to Refuge after all equipment has been checked back in
- Accompany and observe groups
- *Volunteer Naturalists do not supervise students or teach lesson plans.

***Volunteer Naturalist(s) are required to conduct Wetland Pond lesson and indoor lab activities.**

They can also be requested to lead Water Testing Lessons. Please review the lesson plans, the reservation and equipment form to request a volunteer naturalist to lead these lessons.

Sample Parent Volunteer Letter

Sample letter for teachers to distribute to parent volunteers.

Dear Parent Volunteer,

Thank you for volunteering your valuable time to make this field trip to the Tualatin River National Wildlife Refuge a possibility. Enclosed you will find a map of the refuge, the breakdown of student groups, Refuge guidelines, itinerary for the day, equipment list and lesson directions for each study site.

As a volunteer, your primary job will be to monitor the movement of the students from one study site to the next and to facilitate the educational lessons included in your packet. Keep your group of students with you at all times, with no one wandering ahead or falling behind. You will be paired with another group and its parent volunteer at each study site. Please be prepared to read the directions provided in this packet to the students when your group has arrived at their designated study site. Some helpful tips on managing your students include: keep your students together and count them every 10 minutes; stay on trails; avoid social talking with other volunteers; and share your enthusiasm for discovering nature with your students.

Here is a list of items to bring with you the day of the field trip:

- Parent volunteer handouts
- Clothing for the weather
- Binoculars if you have them
- Camera – please take pictures
- Sturdy shoes
- Water bottle
- Sack lunch – please take trash with you
- Allergy medications
- Cell phone if you have one

All parent volunteer envelopes must be returned to me at the end of the day.

If you have any problems or concerns, my cell phone # is: () _____ - _____.

Thank you,

(Teacher's Name)

Sample Field Trip Activity Groupings

The following are some examples of the most popular field trip activity groupings that teachers have structured for their visits. Since field trips are teacher-led, every field trip is different depending on learning objectives for each grade level and classroom.

K-2 Grade Field Trip Plan

Layout #1

Basic Introduction to Refuge ⇒ Classroom: Pelts and Tracks ⇒ Station #1: Wetland Ponds ⇒ Station #2: Wildlife Inventory ⇒ Station #5: Bird Inventory ⇒ Nature Bingo throughout field trip

Layout #2

Basic Introduction to Refuge ⇒ Station #1: Wetland Ponds ⇒ Station #2: My Tree ⇒ Station #5: Bird Inventory ⇒ Nature Bingo throughout field trip

3-5 Grade Field Trip Plan

Layout #1

Classroom: Refuge Introduction ⇒ Station #1: Wetland Ponds ⇒ Station #2: Environmental Contrasts ⇒ Station #5: Don't Just Do Something, Sit There ⇒ Station #4: Water Testing ⇒ Nature Bingo throughout field trip

Layout #2

Basic Introduction to Refuge ⇒ Station #1: Wetland Ponds ⇒ Station #2: Wildlife Inventory ⇒ Station #4: Water Testing ⇒ Station #5: Bird Inventory ⇒ Nature Bingo throughout field trip

6-8 Grade Field Trip Plan

Layout #1

Classroom: Refuge Introduction ⇒ Station #1: Water Testing ⇒ Station #4: Water Testing ⇒ Station #2: Refuge Expedition ⇒ Station #3: Refuge Expedition ⇒ Station #5: Refuge Expedition ⇒ Wetland Overlook: Journaling

Layout #2

Basic Refuge Introduction ⇒ All Stations and Wetland Overlook: Bird Observations, Inventory and Adaptations

*** Sample Field Trip Activity Guide ***

Wildlife Observations of the Tualatin River Refuge 3-5th Grade Lesson Plan

This program keeps students in one group and takes them as far as the riparian forest.
2 ½ hours

Theme

Spend time using nature observation skills to look for animals, and animal signs with reflection through journaling, drawing, poetry, or sharing with fellow students the day's observations.

Pre-Activity

Read Refuge's Field Trip Preparation Section. Teach and practice deer ears, owl eyes and fox walk to prepare students for being outside, quiet and observant.

Field Trip

Station #1: Wetland Ponds ⇨ River Overlook ⇨ Station #5: Riparian Forest

Students will move together as one group. Recommended for under 30 students.

Arrival at Refuge

Refuge volunteer naturalist will greet bus, offer opening statement at plaza, organize students into groups, and hand out requested equipment.

Field Trip Time Breakdown

Arrive at Refuge, opening by Refuge Volunteer, organize into groups: 9:45am - 10:00am

First Activity: 10:00am – 10:40am (20 minute activity + 20 minute walking)

Second Activity: 10:40am – 11:20am (20 minute activity + 20 minute walking)

Third Activity: 11:20am – 11:50am (30 minute activity)

Forest Walk to knoll/bus: 11:50am – 12:15pm (25 minutes)

Station Activities

Station #1 Wetland Ponds

Activity: Wildlife Inventory (page 125)

Complete activity in 20 minutes, leaving 20 minutes to walk to next station, allowing time for nature observations with teachers, parent volunteers and Refuge naturalist throughout field trip.

River Overlook

Activity: Signs of the Seasons (page 131 - must be adapted to older students)

Complete activity in 20 minutes, leaving 20 minutes to walk to Station #5.

Station #5 Riparian Forest

Activity: Don't Just do Something, Sit There! (page 135)

Complete activity in 30 minutes, leaving 25 minutes to walk back to knoll and bus.

Departure

Return Refuge supplies back to Refuge volunteer naturalist. If time allows, Refuge volunteer can offer a closing address to students back at knoll. Board buses to school.

*** Sample Field Trip Activity Guide ***

This program takes four groups as far as the riparian forest. 4 ¼ hours

Various Habitats of the Tualatin River Refuge K-2nd Grade Lesson Plan

Theme

Learn about the plants, animals, and birds of the various habitats found throughout the Refuge – from riparian forest, to oak savanna, to wetlands.

Pre-Activity

Read Refuge's Field Trip Preparation Section. Teach and practice deer ears, owl eyes and fox walk to prepare students for being outside, quiet and observant.

Field Trip

Station #1: Wetland Ponds ⇌ Station #2: Oak Savanna

Station #2: Oak Savanna ⇌ Station #3: Habitat Edges

Station #3: Habitat Edges ⇌ Station #4: Rock Creek

Station #4: Rock Creek ⇌ Station #1: Wetland Ponds

EVERYONE: Station 5: Riparian Forest

Arrival at Refuge

Refuge volunteer naturalist will greet bus, offer opening statement at plaza, organize students into groups, and hand out requested equipment.

Field Trip Time Breakdown

Arrive at Refuge, opening by Refuge Volunteer, organize into groups: 9:00am- 9:10am

Note: Once in groups, have the group traveling the farthest, Rock Creek, start walking to their station first, with the group traveling the least distance, Pond Study, leaving last. Station #4 moving to Station #1 will take 5 minutes. No extra time has been left for teachable moments.

First Activity/Rotation:	9:15am – 9:40am (20 minute activity + 5 minute rotation)
Second Activity/Rotation:	9:40am – 10:05am (20 minute activity + 5 minute rotation)
Third Activity/Rotation:	10:05am – 10:30am (20 minute activity + 5 minute rotation)
Fourth Activity/Rotation:	10:30am – 10:55am (20 minute activity + 5 minute rotation)
Walk to knoll & bus:	10:55am – 11:10am (15 minute walk)
Lunch:	11:10am – 11:45am (35 minutes)
Bathroom/Assemble again:	11:45am – 12:00pm (15 minutes)
Walk to Forest:	12:00pm – 12:20pm (20 minute walk)
Last Activity/Rotation:	12:20pm – 1:20pm (40 minute activity time + 20 minute walk)
Board Bus:	1:20pm – 1:30pm

Station Activities

Station #1 Wetland Ponds

Activity: Wetland Wonders – Pond Study (page 157)

This activity takes place at both wetland ponds and is led by a Refuge Volunteer Naturalist. Be sure students understand prior to the activity how the different water levels in the ponds, and the plants and animals found in and around the ponds are important to other living creatures outside the ponds. Discuss food chains.

Complete activity in 20 minutes, leaving 5 minutes to walk to next station, rotating to next station by numeric order as noted above.

Station #2 Oak Savanna

Activity: Tree Cookies (page 201)

Complete activity in 20 minutes, leaving 5 minutes to walk to next station, rotating to next station by numeric order as noted above.

Station #3 Habitat Edges

Activity: Seed Dispersal - seasonal activity (page 202)

Complete activity in 20 minutes, leaving 5 minutes to walk to next station, rotating to next station by numeric order as noted above.

Station #4 Rock Creek

Activity: Nature Bingo (page 115)

Complete activity in 20 minutes, leaving 5 minutes to walk to next station, rotating to next station by numeric order as noted above.

Station #5 Riparian Forest or Wetland Overlook

Activity: Discuss Nature Bingo (page 115), Nature Journal (page 50) and Reflection

Station #5 Riparian Forest or the Wetland Observation Deck can be used for the above activities.

Finishing the field trip with all or one of these activities allows students time to share, reflect, enjoy some quiet time, or use their observation skills learned at school as a pre-activity.

Gather all students together in plaza after lunch and walk to Forest station in 20 minutes. Complete activity in 40 minutes, leaving 20 minutes to walk back to knoll and bus.

Departure

Return Refuge supplies back to Refuge volunteer naturalist. If time allows, Refuge volunteer can offer a closing address to students back at knoll. Board buses to school.

Post-Activity

Back at school use post activities to enhance student learning and recall from their field trip. Create a class mural to show what they observed at the different habitats or focus on one habitat's plants, animals or insects. Share items from their journaling to add to the mural.

*** Sample Field Trip Activity Guide ***

This program takes five groups as far as the riparian forest. 4 ¼ hours

Zoologist, Botanist, & Earth Science Teams

Explore Tualatin River Refuge

3-5th Grade Lesson Plan

Theme

Students explore the Refuge as though they are a scientist specializing in a specific field.

Pre-Activity

See Lesson plan for specific background information on pre- and post-work required to organize teams and all student worksheets needed.

Field Trip

First, second, and third groups rotate:

Station #1: Wetland Ponds ⇌ Station #2: Oak Savanna

Station #2: Oak Savanna ⇌ Station #3: Habitat Edges

Station #3: Habitat Edges ⇌ Station #1: Wetland Ponds

Fourth and Fifth groups rotate:

Station #5: Riparian Forest ⇌ River Overlook

River Overlook ⇌ Station #5: Riparian Forest

Lunch

Switch groups and follow above rotation again

NOTE: Station #3 moving to Station #1 will take 5 minutes. Station #5 rotating to River Overlook will take 10 minutes. No extra time has been left for teachable moments.

Arrival at Refuge

Refuge volunteer naturalist will greet bus, offer opening statement at plaza, organize students into groups, and hand out requested equipment.

Field Trip Time Breakdown

Arrive at Refuge, opening by Refuge Volunteer, organize into groups: 9:30am- 9:45am

Note: Have the group traveling the farthest, Riparian Forest and River Overlook, start walking to their station first, with the group traveling the least distance, Pond Study, leaving last. First, Second, and Third groups allow 5 minute walk to Station #3 and 5 minute rotations. Fourth & Fifth groups allow 15 minute walk to Station #5 and 15 minute rotations.

First Activity/Rotation: 9:50am – 10:20am (25 minute activity + 5 minute rotation)

Second Activity/Rotation: 10:20am – 10:50am (25 minute activity + 5 minute rotation)

Third Activity/Rotation: 10:50am – 11:20am (25 minute activity + 5 minute rotation)

Fourth Activity/Rotation: 10:00am – 10:40am (25 minute activity + 15 minute rotation)

Fifth Activity Rotation: 10:40am – 11:20am (25 minute activity + 15 minute rotation)

Edges Walk to knoll/bus: 11:20am – 11:25am (furthest groups will arrive last)

Forest Walk to knoll/bus: 11:20am – 11:35am (furthest groups will arrive last)

Lunch:	11:25am – noon (35 minutes)
Bathroom/Assemble again:	noon – 12:10pm (10 minutes)
First Activity/Rotation:	12:15pm – 12:45pm (25 minute activity + 5 minute rotation)
Second Activity/Rotation:	12:45pm – 1:15pm (25 minute activity + 5 minute rotation)
Third Activity/Rotation:	1:15pm – 1:45pm (25 minute activity + 5 minute rotation)
Fourth Activity/Rotation:	12:25pm – 1:05pm (25 minute activity + 15 minute rotation)
Fifth Activity Rotation:	1:05pm – 1:45pm (25 minute activity + 15 minute rotation)
Edges Walk to knoll/bus:	1:45pm – 1:50pm (furthest groups will arrive last)
Forest Walk to knoll/bus:	1:45pm – 2:00pm (furthest groups will arrive last)
Board Bus:	2:00pm – 2:10pm

Station Activities

Station #1 Wetland Ponds

Activity: Refuge Expedition - Botanist (page 141)

Complete activity in 25 minutes, leaving 5 minutes to walk to next station, rotating to next station by numeric order as noted above.

Station #2 Oak Savanna

Activity: Refuge Expedition – Earth Scientist (page 141)

If students have not completed Riparian Forest Habitat comparison, focus on Oak Savanna.

Complete activity in 25 minutes, leave 5 minutes to walk to next station, and then rotate to next station by numeric order as noted above.

Station #3 Habitat Edges

Activity: Environmental Contrasts (page 209)

Complete activity in 25 minutes, leave 5 minutes to walk to next station, and then rotate to next station by numeric order as noted above.

River Overlook

Activity: Tracks, Don't Just do Something, Sit There! (page 135)

Allow students to observe animal tracks on River Overlook and use activity for further observation and quiet time, or add further data to Refuge Expedition worksheets.

Complete activity in 25 minutes, leave 15 minutes to walk and rotate to next station by numeric order as noted above.

Station #5 Riparian Forest

Activity: Refuge Expedition - Zoologist (page 141)

If students have not completed Oak Savanna comparison, focus on Riparian Forest Habitat.

Complete activity in 25 minutes, leave 15 minutes to walk and rotate to next station by numeric order as noted above.

Departure

Return Refuge supplies back to Refuge volunteer naturalist. If time allows, Refuge volunteer can offer a closing address to students back at knoll. Board buses to school.

Refuge's Available Kits & Bins

The following Refuge kits & bins are available to teachers on their field trips. Quantities are in () and represent the number of items in each kit available per class. Request these bins and kits and other refuge supplies on the "Equipment Supply" form.

Water Quality Testing and Pond Study supplies are in **1 plastic bin each** – to stay at the designated study station. Example: If all student groups will test water quality and take nature observation walks, the water quality equipment and its bin must stay at study site where testing is being conducted. Separate nature observation equipment will be supplied in backpacks to travel with groups between study sites or they can stay at sites depending on day's agenda.

We recommend providing parent volunteers with the Equipment Needs Request Form, instructions on equipment use, and which bins or packs stay at study stations or travel with students.

Water Testing Supply Bin: (NOTE: Items in bin must stay with bin at all times whether or not all equipment is used. Consult lesson plan's material list for any additional required items.)

- (1) extension pole for water sampling
- (2) water buckets
- (5) eye droppers
- (3) water thermometer & soil thermometer
- (2) water quality test kits w/dissolved oxygen, coliform, pH, nitrogen, phosphate, temperature, turbidity
- (2) water quality test kit instructions
- (2) hand sanitizer
- paper towels

Pond Study Supply Bin: (NOTE: Items in bin must stay with bin at all times whether or not all equipment is used. Consult lesson plan's material list for any additional required items.)

- (3) large insect collecting tubs
- (3) small insect viewing tubs
- (2) water buckets
- (3) plastic scooping spoons
- (3) hand lenses
- (3) water thermometer & soil thermometer
- (3) magnifying insect containers
- (3) Pond Life: 1st study book, laminated insect ID books K-3, laminated insect guides 4-12
- paper towels
- (2) hand sanitizer

Kits:

- ☐ (1) Recycling Discover Kit: plastic liter bottle, fleece vest, recycled paper, aluminum can, shredded rubber shoe soles, shredded rubber tires, newspaper article, activity layout
- ☐ (1) Wood Cookies Kit: Douglas fir wood cookies
- ☐ (1) Animal Signs Kit: feathers, beaver wood chips, oak galls
- ☐ (1) Misc. Seeds Kit: acorns, grass seeds, bigleaf maple seeds, ash seeds, Douglas fir cones

Other equipment: see Equipment Supply Form